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10/628,471	07/29/2003	Ikutaroh Nagatsuka	116705	4700

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EXAMINER	
HUFFMAN, JULIAN D	

ART UNIT	PAPER NUMBER
2853	

DATE MAILED: 08/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/628,471	NAGATSUKA ET AL.	
	Examiner	Art Unit	
	Julian D. Huffman	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 June 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,12,14-18,20,21,23 and 24* is/are rejected.

7)☒ Claim(s) *9-11,13,19 and 22* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 1-15 and 18-20 are objected to because of the following informalities:

With regards to claims 1-15, the printing of a predetermined image, the printing of a test image, the detecting of an image characteristic value, etc. are never claimed. It is only stated that certain structure is for or capable of doing such. Therefore, subsequent recitations of the predetermined image, the test image, the characteristic value, etc., lack antecedent basis. The examiner attempted to point this out to applicant in the prior office action. Applicant should correct this language in a manner similar to the correction provided for the last paragraph of claim 1.

In claims 1-15, the term "image recording medium" lacks antecedent basis.

Claim 6 includes the limitation of subsequently recording the predetermined image based on detection of the test image. This language is not clear. First, no order has been implied by the apparatus claims, thus it is not clear what the recording is subsequent to. Secondly, the language should recite "a subsequent test image" to prevent confusion and antecedent basis problems with the term "the test image", which appears throughout the claims.

Claim 18 includes the language "subsequently recording the test image". This language is not clear for similar reasons as those described for claim 6 above (no order is implied in the steps of the method claims).

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 6, 8, 12, 14-18, 20 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Miyoshi et al. (U.S. 6,489,983 B2).

Miyoshi et al. discloses :

With regards to claim 1, an image forming device (fig. 1) comprising:

a recording section for recording a predetermined image on a rewritable image recording medium (10);

a control section (51) for controlling the recording section to record a test image on the image recording medium (column 4, line 62-column 5, line 2, processor is programmed to detect/test the image as it is printed, thus the image is a test image, and adjust the feeding speed which affects the color density);

a detection section for detecting an image characteristic value of the test image recorded on the image recording medium (fig. 2, element 18); and

a determination section (programming software run by CPU 51) that determines whether the image characteristic value detected by the detection section is within an allowable range or not (controller adjust the color tone to a predetermined value).

With regards to claim 6, the control section controls the recording section so that the predetermined image to be recorded on the image recording medium and the test image are simultaneously recorded on the image recording medium (since the predetermined image is the test image, Miyoshi discloses this limitation), and sets image recording conditions for subsequently recording the predetermined image on the image recording medium, based on the image characteristic value detected by the detection section when the detected image characteristic value is outside the allowable range (an image printed after the predetermined image is printed based on conditions set after detecting the test image, column 4, line 62-column 5, line 2, the printing and detecting of an image occur repeatedly throughout the printing on a sheet).

With regards to claim 8, the control section controls the recording section to record a plurality of test images on the image recording medium under a plurality of different image recording conditions, controls the detection section to detect image characteristic values for each of the plurality of test images, and sets the image recording conditions based on the image characteristic values detected by the detection section for each test image recording under the different image recording conditions (column 4, line 62-column 5, line 2, for a given sheet, test images are printed under different conditions such as feed speed and temperature, while the values for a subsequent image are adjusted based on the values of a previously printed test image).

With regards to claim 12, the limitations of the image recording medium do not further limit the image recording device. Firstly, the image recording medium is not a part of the image recording device and does not further limit the device claim (see

MPEP 2115). Secondly, the image recording medium is never claimed, rather, claim 1 merely recites that the recording section is for recording an image on a rewritable image recording system.

With regards to claim 14, the detection section detects display densities of the test image (column 5, line 2).

With regards to claim 15, the limitations of the image recording medium do not further limit the device.

With regards to claim 16, an image forming method comprising:

recording a test image on a rewritable image recording medium based on predetermined image recording conditions for a predetermined image to be recorded on the rewritable image recording medium (column 4, line 62-column 5, line 2, processor detects the test image as it is printed, thus the image is a test image, and adjust the feeding speed and temperature which affects the color density);

detecting an image-characteristic value of the test image recorded on the image recording medium (column 4, line 62-column 5, line 2); and

determining whether the detected image-characteristic value is within an allowable range or not (controller adjust the color tone to a predetermined value or range).

With regards to claim 17, recording a predetermined image on the image recording medium, based on the predetermined image conditions, when it is determined that the image characteristic value detected in the detecting step is within the allowable range (if values are within and allowed range, the image is printed).

With regards to claim 18, changing the predetermined image recording conditions so that the detected image characteristic value approaches the allowable range, when it is determined that the image characteristic value detected in the detecting step is outside the allowable range; and

subsequently recording the test image on the image recording medium, based on the changed image recording conditions (column 4, line 62-column 5, line 2, if the previously printed image, or test image, has characteristics outside of a range, the subsequently printed image is corrected).

With regards to claim 20, the steps are repeated until the image is completed.

With regards to claim 21, storing at least one of image recording conditions for at least one image recorded on the image recording medium, and the detected image characteristic value, wherein the predetermined image recording conditions are defined based on at least one of the stored image recording conditions and image characteristic value (the image conditions detected by the sensor must be stored in the CPU 51 to permit correction of stored image recording conditions, temperature and feed speed, column 4, line 62-column 5, line 2).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyoshi et al.

Miyoshi et al. discloses that before printing on a scanning line on the print medium, a previous image is erased (column 6, lines 10-19).

Miyoshi et al. discloses an erasable medium but does not disclose deleting the test image recorded on the image recording medium.

However, it would have been obvious to one having ordinary skill in the art at the time of the invention to re-use a previously printed sheet of media, thereby erasing a previously recorded test image, for the purpose of reducing waste.

6. Claims 1-5, 12, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takada et al. (U.S. 5,596,353) in view of Bowers et al. (U.S. 5,369,476).

Takada et al. discloses:

With regards to claim 1, an image forming device (fig. 2) comprising:

a recording section for recording a predetermined image on a rewritable image recording medium (fig. 2a, recording heads are capable of forming image on rewritable recording medium);

a control section (fig. 1, 1101) for controlling the recording section to record a test image on the image recording medium (fig. 30);

a detection section for detecting an image characteristic value of the test image recorded on the image recording medium (1014); and

a determination section that determines whether the image characteristic value detected by detection section is within an allowable range or not (1020).

With regards to claim 2, the control section controls the recording section so that before the predetermined image is recorded on the image recording medium, the test image is recorded on the image recording medium, and when the image characteristic value detected by the detection section is outside the allowable range, image recording conditions for recording the predetermined image on the image recording medium are set based on the detection image characteristic value (column 2, lines 57-62).

With regards to claim 3, the control section controls the image forming device to discharge the image recording medium to a discharging tray for defective media (column 10, lines 35-40, the tray is capable of holding defective media), when the image characteristic value detected by the detection section is outside the allowable range even after the image recording conditions have been changed more than once based on the detecting the image characteristic value of more than one recorded test image (column 2, lines 53-62, the testing is conducted periodically and therefore the test image is formed more than once to correct density differences).

With regards to claim 4, the control section controls the recording section to record a plurality of test images on the image recording medium under a plurality of different image recording conditions, controls the detection section to detect an image characteristic value for each of the plurality of test images, and sets new image

recording conditions based on the image characteristic values detected by the detection section for each test image recorded under the different image recording conditions (fig. 30).

With regards to claim 5, the predetermined image is recorded on the image recording medium, based on the image recording conditions set by the control section, when the image characteristic value detected by the detection section is within the allowable range (after performing uneven density correction, a predetermined image is printed on the recording medium, if the test image has not significantly changed, further/new correction is not required and previous recording conditions stored in the control section are maintained).

With regards to claims 12 and 15 the limitations of the recording medium do not further limit the apparatus. See MPEP 2115.

With regards to claim 14, the detection section detects display densities of the test image (column 2, line 60).

Takada et al. does not disclose the test images and the predetermined image being formed on the same recording media. In Takada et al. a test image is formed on the media, it is discharged after being read, and then the predetermined image is recorded on the medium.

Bowers et al. discloses printing test images on the margin of a recording media to be read by a sensor for detecting and correcting optical density (figs. 3 and 4) of a predetermined image to be subsequently printed on the media.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Takada et al. to print the test image and the predetermined image on the same sheet of media, as taught by Bowers et al. for the purpose of reducing waste of print media.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyoshi et al. in view of Takada et al.

Miyoshi et al. performs the sensing operation each time a sheet is printed.

Miyoshi et al. discloses everything claimed with the exception of a discharge tray.

Takada et al. discloses a discharge tray (43).

It would have been obvious to one having ordinary skill in the art at the time of the invention to incorporate the discharge tray of Takada et al. in the printer of Miyoshi et al. for the purpose of preventing completed prints from being damaged after printing.

Allowable Subject Matter

8. Claims 9-11, 13, 19, and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten to overcome the objections outlined above in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

9. In response to applicant's argument that Miyoshi fails to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a test image separate from a predetermined image to be recorded) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant's argument that Takada does not disclose recording an image on a re-writable recording medium is noted. However, the claims contain antecedent basis problems. Claim 1, line 2 uses the language "rewritable image recording medium", while claim 1, line 4 uses the language "image recording medium". It is not clear if an image recording medium is referred to or a rewritable image recording medium. Additionally, claims 1-5, 10-12, 14 and 15 merely recite the intended use of the apparatus. The claims do not use means plus function language, or method limitations. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963).

Further, the recitation of intended use found in the claims cannot result in a structure difference between the claimed invention and the prior art since the material or article worked upon by an apparatus cannot further limit the apparatus. See MPEP 2115.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. JP 4-39041 discloses printing a test pattern on a belt and wiping the test pattern from the belt after printing. JP 58-107391 discloses printing a test pattern on a ink-erasable material, erasing the test pattern, and using the material again solely to print further test patterns.

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian D. Huffman whose telephone number is (571) 272-2147. The examiner can normally be reached on 9:30a.m.-6:00p.m. Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JH
8 August 2005

K. FRIGGINS
PRIMARY EXAMINER